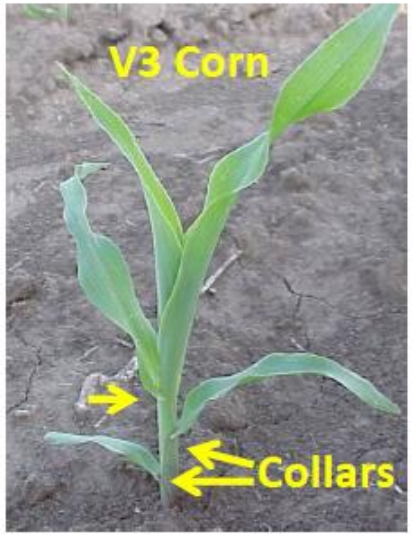
| Stage | Vegetative Development Milestones |
|---|---|
| VE | Emergence - radicle and seminal roots still growing. |
| V1 | First leaf collar - Corn 2-3 inches tall; first ring of nodal roots developing; damage to mesocotyl will result in seedling death. |
| V2 | 2nd leaf collar - Plant still relying on energy in seed, seminal roots reaching maximum size. |
| V3 | 3rd leaf collar - Plant relying just on photosynthesis, seed no longer contributing to growth. Root hairs visible on nodal roots. |
| V4 | Need to control grass or broadleaf weeds before this stage to avoid significant yield loss. |
| V5 | Corn plant about 8 -12 inches tall. Growing point still below ground. |
| V6 | Growing point emerges above soil line. Typically 5 rings of nodal roots should be visible. Tillers are developing. |
| V7 | The number of rows of kernels around the cob is fixed. |
| V8 - V9 | Plants entering rapid growth stage both above and below ground. Small ear shoots visible if you split stalks. Plants about 36 inches tall. Tassel is developing. Degeneration and loss of bottom 2 leaves has occurred. |
| V10 -V11 | New leaves emerging every 2 to 3 days. Period of rapid uptake of nutrients and moisture and rapid plant growth. |
| V12 - nth | Brace roots develop. Number of kernels in row length on the cob is determined. Plant reaches full height. Ear size being determined, stress can result in significant yield loss. |
| VT | Tasseling - 2 to 3 days prior to silkinig. Pollen shed lasts for 4 to 6 days on an individual tassel. By end of this stage the plant has absorved about 65% of total N, 50% of total P and 85% of total K it will require for the entire season. |

| Stage | Reproductive Development Milestones |
|---|---|
| R1 | Silking - One of the most critical stages in determining yield potential. Successful pollination must occur for kernel development. Potassium uptake complete, N and P uptake is occuring rapidly. Leaf analysis for nutrients at this stage highly correlates with final yield. |
| R2 | Blister - Kernels form as small blisters containing clear fluid. Embryo's developing in every kernel. Kernels 85% moisture. |
| R3 | Milk - Clear fluid in kernels begins to turn milky white as starch accumulates. Stress during this stage can cause kernel abortion. |
| R4 | Dough - Starch is dough-like consistency. Drought or disease stress will usually result in reducing kernel depth and test weight. Kernels 70% moisture. |
| R5 | Dent - Kernels are dented. Occurs about 35 to 40 days after silking. Cob has distinct color - white, pink or red. Kernels 55% moisture. Silage Harvest begins sometime during stage, depending on desired whole plant moisture. |
| R6 | Black Layer - Physiological maturity. Total yield determined, frost has no impact on yield. Kernels 30 to 35% moisture. |

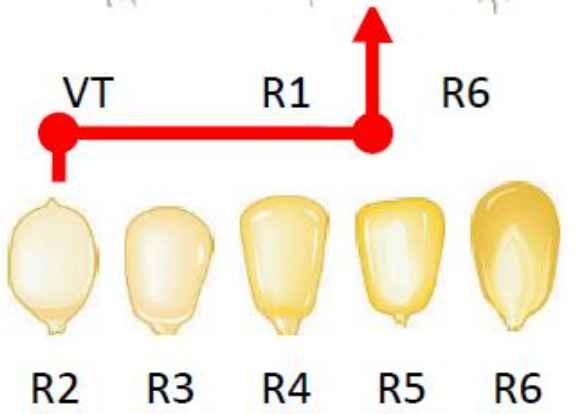



| Planting Date | Plants per acre at Harvest | | | | | | |
|---|---|---|---|---|---|---|---|
| | 10,000 | 15,000 | 20,000 | 25,000 | 30,000 | 35,000 | 40,000 |
| | % of optimum yield | | | | | | |
| April 20 to May 5 | 71 | 81 | 89 | 95 | 99 | 100 | 99 |
| May 5 to May 15 | 68 | 78 | 85 | 91 | 95 | 96 | 95 |
| May 15 to May 25 | 62 | 71 | 77 | 83 | 86 | 87 | 86 |
| May 25 to June 5 | 50 | 57 | 63 | 67 | 69 | 70 | 69 |
| June 5 to June 15 | 38 | 44 | 48 | 51 | 53 | 54 | 53 |

Table adapted from Abendroth, L. and Elmore, R. 2010. Replant checklist. Iowa State University. https://crops.extension.iastate.edu/

DEKALB
WHEN PERFORMANCE COUNTS

VE V1 V3 V7 V10 VT R1 R6



R2 R3 R4 R5 R6

**Measuring Plant Stands**

| Row Width | 1/1,000 of an Acre |
|---|---|
| 30 inches | 17 feet 5 inches |
| 22 inches | 23 feet 9 inches |
| 20 inches | 26 feet 2 inches |
| 15 inches | 34 feet 10 inches |